

REMARKS

The Office Action mailed March 4, 2005, has been carefully reviewed and the following remarks and amendments have been made in consequence thereof.

Claims 6, 7, 9-12, and 14-17 are pending in this application. Claims 6, 7, and 9-16 stand rejected. Claim 13 has been canceled herein. Claim 17 has been newly added herein.

The rejection of Claims 6, 7, 9-12, and 13-16 under 35 U.S.C. § 112, first paragraph, is respectfully traversed.

In contrast to the assertion on page 4 of the Office Action that “applicant’s original disclosure is not enabled for a first fluid being an anti-static fluid.” Applicant’s respectfully submit that it does not matter which fluid is referred to as a first and/or a second fluid, but rather that an anti-static fluid and/or a water-based cleaning solution may each be considered to be a first and/or the second fluid. Moreover, independent Claims 6 and 12 have each been amended to recite “wherein one of said first and second fluids comprises an anti-static liquid that facilitates reducing a rate of formation of particulate matter within the gas turbine engine.” Additionally, independent Claims 6 and 12 have also each been amended to positively recite a second fluid. Specifically, Claims 6 and 12 have each been amended to recite “a first fluid contained within a first reservoir” and “a second fluid contained within one of the first reservoir and a second reservoir”. Accordingly, Applicants respectfully submit that Claims 6 and 12, as amended, satisfy the requirements of Section 112.

On page 4 of the Office Action, it was asserted that “the different species of liquids defining “anti-static” critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure.” Specifically, the Examiner argues that:

“the specification does not provide guidance with respect to any working examples (species) of anti-static liquids. Furthermore, the specification fails to provide guidance as to how to obtain such measurements for anti-static properties so as to define the meets and

bounds of patent protection sought, apparently attempting to improperly incorporate by reference such anti-static liquids as commercially available. What liquids constitute an ‘anti-static liquid’? Without such information on what species of liquids fall within the scope of applicant’s broad ‘anti-static liquid’, one of ordinary skill in the art could not predict which liquids out of the vast number of known liquids would have anti-static properties and, accordingly, one of ordinary skill in the art would be required to perform undue experimentation to identify whether a liquid would have ‘anti-static properties even though no threshold (i.e. ‘anti-static’ measurement and/or range) is disclosed. Therefore, one skilled in the art could not make and/or use the invention.”

However, page 4 of the Applicants’ specification, for example, states that “the second liquid coats compressor blades (now shown) within compressor assembly 14 to facilitate suppressing an attraction of electrostatically-attracted particles to the compressor blades.” Additionally, page 5 of the specification, for example, recites that “the anti-static coating applied to the compressor blades facilitates suppressing electrostatic attraction of the blades” and “[a]ccordingly, particles dependent on electrostatic attraction for attachment to the compressor blades are neutralized and flow through the engine, thus reducing a rate of formation of particulate matter within the engine.” Applicants therefore respectfully submit that one skilled in the art would not need to perform undue experimentation to determine what constitutes an anti-static liquid, but rather could duplicate the invention using any liquid that neutralizes particles dependent upon electrostatic attraction. Moreover, in contrast to the assertion that the specification “does not provide guidance with respect to any working examples (species) of anti-static liquids”, the specification recites at pages 4 and 5, for example, that “[i]n one embodiment, the second liquid is a water-soluble, anti-static liquid, such as an antistatic agent commercially available from Dongnam Chemical Industries, Ltd., Inchon, Korea.” Applicants’ specification therefore provides an example of a liquid that falls within the scope of anti-static liquid. Accordingly, Applicant submits that Claims 6, 7, and 9-16 satisfy the requirements of Section 112, first paragraph.

Claims 7 and 9-11 depend from independent Claim 6. When the recitations of Claims 7 and 9-11 are considered in combination with the recitations of Claim 6, Applicants

submit that dependent Claims 7 and 9-11 likewise satisfy the requirement of Section 112, first paragraph.

Claims 14-16 depend from independent Claim 9. When the recitations of Claims 14-16 are considered in combination with the recitations of Claim 9, Applicants submit that dependent Claims 14-16 likewise satisfy the requirement of Section 112, first paragraph.

For at least the reasons set forth above, Applicants respectfully request that the Section 112 rejection, first paragraph rejection of Claims 6, 7, 9-12, and 14-16 be withdrawn.

The rejection of Claims 6, 7 9-12, and 13-16 under 35 U.S.C. § 112, second paragraph, is respectfully traversed.

On page 5 of the Office Action, it is asserted that Claims 6, 7, 9-12, and 14-16 are “incomplete for omitting essential elements, such omission amounting to a gap between the elements.” However, independent Claims 6 and 12 have each been amended to positively recite a second fluid, such that both Claims 6 and 12 recite “a first fluid contained within a first reservoir” and “a second fluid contained within one of the first reservoir and a second reservoir”. Moreover, both Claims 6 and 12 have been amended to recite “wherein one of said first and second fluids comprises an anti-static liquid that facilitates reducing a rate of formation of particulate matter within the gas turbine engine.” Accordingly, Applicants respectfully submit that Claims 6 and 12 satisfy the requirements of Section 112, first paragraph.

Claims 7 and 9-11 depend from independent Claim 6. When the recitations of Claims 7 and 9-11 are considered in combination with the recitations of Claim 6, Applicants submit that dependent Claims 7 and 9-11 likewise satisfy the requirement of Section 112, first paragraph.

Claims 14-16 depend from independent Claim 9. When the recitations of Claims 14-16 are considered in combination with the recitations of Claim 9, Applicants

submit that dependent Claims 14-16 likewise satisfy the requirement of Section 112, first paragraph.

For at least the reasons set forth above, Applicants respectfully request that the Section 112 rejection, first paragraph rejection of Claims 6, 7, 9-12, and 14-16 be withdrawn.

The rejection of Claims 6, 7, 9-12, and 14-16 under 35 U.S.C. 102(b) as being anticipated by Hodgens, II, et al. (4,713,120) is respectfully traversed.

Hodgens, II et al. describe a composition and method for removing deposits (10) from internal components (24) of a gas turbine engine (18). Specifically, Hodgens, II et al. describe inserting a spray probe 20 through a boroscope port 21 to inject two solutions into engine (18). A first solution is a cleaning composition (15) formed from an aqueous solution, and is injected into the flowpath to loosen deposits (10) formed along the flowpath within engine (18). A second solution is a rinse solution (16) that is injected into engine (18) to facilitate removing both the cleaning composition (15) and loosened deposits. Notably, Hodgens, II et al. do not utilize an anti-static liquid to reduce a rate of formation of particulate matter within the gas turbine engine.

Claim 6 recites an apparatus for a gas turbine engine comprising “a washing system comprising a pump in flow communication with at least one nozzle, a first fluid contained within a first reservoir, a second fluid contained within one of the first and a second, said washing system configured to inject said first fluid and said second fluid into the gas turbine engine, wherein one of said first and second fluids comprises an anti-static liquid that facilitates reducing a rate of formation of particulate matter within the gas turbine engine.”

Hodgens, II et al. do not describe nor suggest an apparatus for a gas turbine engine including a washing system that includes an anti-static liquid. Accordingly, for at least the reasons set forth above, Claim 6 is submitted to be patentable over Hodgens, II et al.

Claims 7 and 9-11 depend from independent Claim 6. When the recitations of Claims 7 and 9-11 are considered in combination with the recitations of Claim 6, Applicants submit that dependent Claims 7 and 9-11 likewise are patentable over Hodgens, II et al.

Claim 12 recites a gas turbine engine washing system configured to reduce particulate matter within the gas turbine engine, the gas turbine engine including a compressor, wherein the washing system comprises: “a first fluid contained within a first reservoir, a second fluid contained within one of the first and a second reservoir, a nozzle in flow communication with at least one of said first and second reservoirs and for injecting said first and second fluids into said the gas turbine engine upstream from said compressor, wherein one of said first and second fluids comprises an anti-static liquid that facilitates reducing electrostatic attraction within the gas turbine engine.”

Hodgens, II et al. do not describe nor suggest a gas turbine engine washing system including an anti-static liquid. Accordingly, for at least the reasons set forth above, Claim 12 is submitted to be patentable over Hodgens, II et al.

Claims 14-16 depend from independent Claim 12. When the recitations of Claims 14-16 are considered in combination with the recitations of Claim 12, Applicants submit that dependent Claims 14-16 likewise are patentable over Hodgens, II et al.

Accordingly, and for at least the reasons set forth above, Applicants respectfully request the Section 102 rejection of claims 6, 7, 9-12, and 14-16 be withdrawn.

The rejection of Claims 6, 7, 9-2, and 14-16 under 35 U.S.C. 102(b) as being anticipated by Bartos, et al. (4,059,123) is respectfully traversed.

Bartos, et al. describe a self-contained turbine engine cleaning and preservation unit 10. Unit 10 includes a water reservoir 18, a preservative reservoir 20, and a solvent reservoir 24. Solvent reservoir 24 contains a cleaning solution, and preservative reservoir 20 contains a preservation solution for protecting engine components from rust.

Claim 6 recites an apparatus for a gas turbine engine comprising “a washing system comprising a pump in flow communication with at least one nozzle, a first fluid

contained within a first reservoir, a second fluid contained within one of the first and a second, said washing system configured to inject said first fluid and said second fluid into the gas turbine engine, wherein one of said first and second fluids comprises an anti-static liquid that facilitates reducing a rate of formation of particulate matter within the gas turbine engine.”

Bartos et al. do not describe nor suggest an apparatus for a gas turbine engine including a washing system that includes an anti-static liquid. Accordingly, for at least the reasons set forth above, Claim 6 is submitted to be patentable over Bartos et al.

Claims 7 and 9-11 depend from independent Claim 6. When the recitations of Claims 7 and 9-11 are considered in combination with the recitations of Claim 6, Applicants submit that dependent Claims 7 and 9-11 likewise are patentable over Bartos et al.

Claim 12 recites a gas turbine engine washing system configured to reduce particulate matter within the gas turbine engine, the gas turbine engine including a compressor, wherein the washing system comprises: “a first fluid contained within a first reservoir, a second fluid contained within one of the first and a second reservoir, a nozzle in flow communication with at least one of said first and second reservoirs and for injecting said first and second fluids into said the gas turbine engine upstream from said compressor, wherein one of said first and second fluids comprises an anti-static liquid that facilitates reducing electrostatic attraction within the gas turbine engine.”

Bartos et al. do not describe nor suggest a gas turbine engine washing system including an anti-static liquid. Accordingly, for at least the reasons set forth above, Claim 6 is submitted to be patentable over Bartos et al.

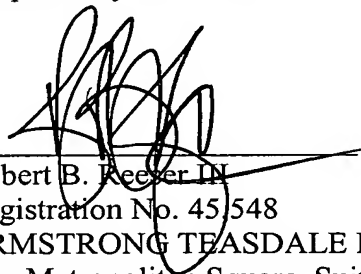
Claims 14-16 depend from independent Claim 12. When the recitations of Claims 14-16 are considered in combination with the recitations of Claim 12, Applicants submit that dependent Claims 14-16 likewise are patentable over Bartos, et al.

For at least the reasons set forth above, Applicants respectfully request that the 35 U.S.C. 102(b) rejection of Claims 6, 9-12, and 14-16 be withdrawn.

New Claim 17 depends from independent Claim 12, which is submitted to be patentable over the cited art. When the recitations of Claim 17 are considered in combination with the recitations of Claim 12, Applicants submit that dependent Claim 17 likewise is patentable over the cited art.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Robert B. Keefer III', is written over a horizontal line.

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